Health and Health Care Among Male-to-Female Transgender Persons Who Are HIV Positive

Rita M. Melendez, PhD, Theresa A. Exner, PhD, Anke A. Ehrhardt, PhD, Brian Dodge, PhD, Robert H. Remien, PhD, Mary-Jane Rotheram-Borus, PhD, Marguerita Lightfoot, PhD, Daniel Hong, PhD, and the National Institute of Mental Health Healthy Living Project Team

Recent studies have reported high rates of HIV infection among male-to-female transgender persons, but little research has examined how male-to-female transgender persons manage living with HIV. We compared demographic and health characteristics of 59 male-to-female transgender persons who were HIV positive with 300 nontransgender control subjects who were HIV positive. We found several demographic differences between the groups but no significant differences in HIV-related health status. Male-to-female transgender persons were less likely than the control group to take highly active antiretroviral therapy. (*Am J Public Health.* 2005;95:1034–1037. doi:10.2105/AJPH.2004.042010)

Research indicates high HIV prevalence and incidence among male-to-female transgender persons;[1,2] however, little is known about how male-to-female transgender persons manage living with HIV. Factors such as low self-esteem, economic necessity, and substance abuse are cited as obstacles to health services for male-to-female transgender persons.[3] Research has suggested that many

male-to-female transgender persons prioritize obtaining medical care for gender reassignment procedures[4] and that many experience health care discrimination.[3–5] This study examined whether male-to-female transgender persons who are HIV positive face greater difficulties accessing health services than do nontransgender persons who are HIV positive.

METHODS

Participants were adults completing a baseline assessment for the Healthy Living Project, a clinical trial designed to reduce sexual risk behaviors among persons who are HIV positive. A total of 3819 individuals who were HIV positive from 4 cities (San Francisco, Calif; Los Angeles, Calif; New York, NY; and Milwaukee, Wis) participated. In each city, we used brochures, posters, advertisements, staff descriptions, and word of mouth to recruit a convenience sample of individuals who were HIV positive from medical clinics and community agencies serving patients who are HIV positive. Trained interviewers conducted all assessments and queried participants on several health-related topics.

To normalize having a transgender identity and to make it easier for some participants to identify as transgender, all participants were asked to identify as male, female, or transgender, and then all participants were asked to state their gender at birth; 64 participants identified as transgender. The term *transgender* is commonly used to identify a diverse group of individuals, including transsexual persons and cross-dressers.[6] The extent of cross-gender identification in regard to dress, identity, or gender reassignment surgeries was not assessed. To ensure that the study was specific to male-to-female transgender persons, 1 intersex and 4 female-to-male participants were excluded from analyses.

The sample of 59 male-to-female transgender persons was compared with a control group of 300 nontransgender individuals who were HIV positive and who were selected to proportionally match the percentages of male-to-female transgender persons in each of the 4 recruitment cities (Table 1). Different recruitment strategies and geographic variations in health care[7] necessitated matching on the basis of recruitment site. The control group was randomly selected via the random sample function from the Statistical Package for the Social Sciences (SPSS Inc, Chicago, Ill) from the remaining 3755 participants and was representative of the nontransgender sample consisting of men who have sex with men (49%), heterosexual women (23%), male injection drug users (13%), and heterosexual men (15%).

These data provide a unique opportunity to examine how a group of male-to-female transgender persons who are HIV positive differ from nontransgender persons who are HIV positive with regard to (1) demographic characteristics, (2) health status, and (3) use of services. Furthermore, the data may help us to understand what factors, if any, explain any disparities.

TABLE 1—Demographic Information, Health Status, and Health Services Comparison of Male-to-Female Transgender Persons Who Were HIV Positive (n = 59) and Control Subjects Who Were HIV Positive (n = 300)

	Male-to-Female Transgender Persons	Control Group	*P*
Demographics			
Recruitment site,[a] %			
Los Angeles, Calif	29	29	
San Francisco, Calif	48	48	
New York, NY	17	17	
Milwaukee, Wis	7	7	
Age, mean, y (SD; range = 17–68)	38.8 (6.8)	41.5 (7.2)	.009
Education, mean, y (SD; range = 0–18)	11.7 (1.9)	12.5 (2.4)	.008
Ethnicity, %			
African American	66	40	<.001
Latino	15	18	NS
White	9	35	<.001
Other	10	7	NS
Living in welfare hotel or shelter, %	32	12	<.001
History of incarceration, %	81	51	<.001
Daily alcohol use, past 3 mo, %	19	6	.002
Injection drug use, past year, %	21	15	NS
Health status			
Most recent CD4 cell count, mean, mm^3 (SD; range = 0–1906)	436 (319)	426 (292)	NS
Detectable viral load (self-report), %	65	58	NS
No. of AIDS-related symptoms, mean (SD; range = 0–25)	12.1 (0.76)	12.4 (0.34)	NS
Beck Depression Inventory, mean score (SD; range = 0–63)	12.9 (8.9)	13.0 (9)	NS
State-Trait Anxiety Inventory, mean score (SD; range = 20–80)	34.1 (10.7)	36.1 (10.5)	NS
Health services			
No. of visits to primary care provider, past 3 mo, mean (SD; range = 0–24)	3.9 (2.7)	3.4 (3.3)	NS
Health insurance coverage, %	32	32	NS
Currently taking highly active antiretroviral therapy, %	59	82	<.001

Note. NS = results that were not statistically significant.
[a]Site of recruitment was used to match the control group to male-to-female transgender persons.

RESULTS

We used cross-tabular analysis and *t* tests (see Table 1) to find several demographic differences between male-to-female transgender persons and the control group: male-to-female transgender persons were more likely to be younger, to be African American, to be currently living in a welfare home or shelter, to have less education, and to have a history of incarceration. Male-to-female transgender

persons also were more likely to drink alcohol on a daily basis.

Despite differences in demographic characteristics, no discrepancies were seen between male-to-female transgender persons and the control group with regard to HIV-related health status. The 2 groups had similar CD4 cell counts, detectable viral loads (self-report), number of AIDS-related symptoms, and scores on the Beck Depression Inventory[8,9] and the State-Trait Anxiety Inventory.[10]

No differences were found between male-to-female transgender persons and the control group with regard to the mean number of visits to a health care provider in the past 3 months or having health insurance coverage. Finally, fewer male-to-female transgender persons (59%) than control subjects (82%) reported currently taking highly active antiretroviral therapy (Table 1). To further investigate the decreased use of highly active antiretroviral therapy among male-to-female transgender persons, we examined whether differences in the proportion of highly active antiretroviral therapy use remained when comparing male-to-female transgender persons with men who have sex with men and heterosexual women in separate analyses: 86% of the men who have sex with men were currently taking highly active antiretroviral therapy ($P<.001$ when compared with male-to-female transgender persons; data not shown), and 73% of the heterosexual women were taking highly active antiretroviral therapy ($P=.089$ when compared with male-to-female transgender persons; data not shown).

To explore the possibility that the discrepancy in highly active antiretroviral therapy use could be explained by demographic differences, we controlled for age, education, ethnicity, living situation, history of incarceration, and daily alcohol use (Table 2). Demographic factors such as being African American and having less than 13 years of education had little effect on changing the magnitude of the difference between male-to-female transgender persons and the control group (Table 2). However, among participants who reported drinking alcohol every day for the past 3 months, 55% (both male-to-female transgender persons and control group) were currently taking highly active antiretroviral therapy.

DISCUSSION

Little information is available about male-to-female transgender persons who are HIV positive, and these analyses help raise specific questions about their lives and needs. In this study, decreased highly active antiretroviral therapy use among male-to-female transgender persons emerged as an important and significant finding; however, the implications of this finding have yet to be determined. Decreased use of highly active antiretroviral therapy is troublesome because this therapy has been associated with prolonged life,[11–13] and indirect evidence suggests that it may decrease the likelihood of sexually transmitting HIV.[14,15]

Although male-to-female transgender persons were less likely to take highly active antiretroviral therapy, we found that the health status of male-to-female transgender persons was similar to that of the control group. Decreasing alcohol dependence may be an important factor for male-to-female transgender persons and may assist in providing increased access to highly active antiretroviral therapy, although this too requires additional investigation. Counseling of transgender individuals by HIV educators may have had a positive effect on the lives of male-to-female transgender persons who are HIV positive.

It is impossible to know how representative this convenience sample was of all male-to-female transgender persons who are HIV positive. Inadequate funding and the difficulties associated with conducting research among a dispersed, hidden, and stigmatized population limited our knowledge of the needs of male-to-female transgender persons who are HIV positive. To bring the health needs and experiences of these individuals to the attention of the public health community requires both dedicated research projects and development of innovative and flexible approaches to recruitment, data collection, and data analysis. ■

TABLE 2—Use of Highly Active Antiretroviral Therapy Among Subgroups of Male-to-Female Transgender Persons as Compared With Subgroups of Control Subjects Who Are HIV Positive

Taking Highly Active Antiretroviral Therapy	Male-to-Female Transgender Persons, %	Control Group, %	*P*
Age < 41 y[a]	61	76	.063
< 13 y education[b]	59	79	.010
African Americans	56	84	.001
Whites	60	82	NS
Living in welfare hotel or shelter	53	72	NS
Ever incarcerated	63	76	.051
Daily alcohol use, past 3 months	55	55	NS

Note. Analyses were restricted to subgroups (i.e., African American male-to-female transgender persons and African American control subjects). NS = results that were not statistically significant.
[a]Age was dichotomized by dividing the sample into 2 groups according to the median (41 y).
[b]Education was dichotomized by dividing the sample according to the median (13 y).

About the Authors

At the time of the study, Rita M. Melendez was with the HIV Center for Clinical and Behavioral Studies, Columbia University and New York State Psychiatric Institute, New York, NY. Theresa A. Exner, Anke A. Ehrhardt, Brian Dodge, and Robert H. Remien are with the HIV Center for Clinical and Behavioral Studies, Columbia University and New York State Psychiatric Institute. Mary-Jane Rotheram-Borus, Marguerita Lightfoot, and Daniel Hong are with the University of California, Los Angeles.

Requests for reprints should be sent to Rita M. Melendez, PhD, San Francisco State University, Human Sexuality Studies and Center for Research on Gender and Sexuality, 2017 Mission St, Suite 300, San Francisco, CA 94110 (e-mail: rmelende@sfsu.edu).

This brief was accepted January 18, 2005.

Contributors

R.M. Melendez codrafted the brief and initiated and completed analyses of the data. T.A. Exner codrafted the brief and analyzed the data. A.A. Ehrhardt contributed substantially to the initiation and design of the study as well as interpretation of the data. B. Dodge

revised the brief. R.H. Remien revised the brief and contributed to interpretation of the data. M.-J. Rotheram-Borus and M. Lightfoot contributed to the initiation and design of the study and data management. D. Hong supervised data collection in Los Angeles. All authors provided final approval of the version to be published. The National Institute of Mental Health Healthy Living Project Team was responsible for acquiring funding, gathering and managing data, and making this large multisite study possible.

Acknowledgments

This research was funded by the National Institute of Mental Health (NIMH) (grants R10-MH57636, R10-MH57631, R10-MH57616, and R10-MH57615).

The authors would like to thank Drs David Whittier, Susie Hoffman, and Bruce Levin for their assistance. We also thank the assessors in each city who conducted the interviews, our clinic and community-based organization collaborators, all other support staff involved in the project, and the men and women who participated in the interviews.

This project was conducted by the NIMH Healthy Living Trial Group: Research Steering Committee (site principal investigators and NIMH staff collaborator): Margaret A. Chesney, PhD, Anke A. Ehrhardt, PhD, Jeffrey A. Kelly, PhD, Mary-Jane Rotheram-Borus, PhD, and Willo Pequegnat, PhD.

Human Participant Protection

The research was approved by the institutional review boards of the New York State Psychiatric Institute and Columbia University; University of California, Los Angeles; University of California, San Francisco; and Wisconsin University.

References

1. Clements-Nolle K, Marx R, Guzman R, Katz M. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. *Am J Public Health.* 2001;91:915–921.

2. Nemoto T, Luke D, Mamo L, Ching A, Patria J. HIV risk behaviours among male-to-female transgenders in comparison with homosexual or bisexual males and heterosexual females. *AIDS Care.* 1999;11: 297–312.

3. Clements K, Wilkinson W, Kitano K, Marx R. HIV prevention and health service needs of the transgender community in San Francisco. *Int J Transgenderism.* 1999;3(1–2). Available at: http://www.symposion.com/ijt/hiv_risk/clements.htm.

4. Kammerer N, Mason T, Connors M. Transgender health and social service needs in the context of HIV risk. *Int J Transgenderism.* 1999;3(1–2). Available at: http://www.symposion.com/ijt/hiv_risk/kammerer.htm.

5. Bockting WO, Robinson E, Rosser BRS. Transgender HIV prevention: a qualitative needs assessment. *AIDS Care.* 1998;10:505–526.

6. Feinberg L. *Transgender Warriors: Making History From Joan of Arc to RuPaul.* Boston, Mass: Beacon Press; 1996.

7. Cook JA, Cohen MH, Grey D, et al. Use of highly active antiretroviral therapy in a cohort of HIV-seropositive women. *Am J Public Health.* 2002;92:82–87.

8. Beck AT, Steer RA. Internal consistencies of the original and revised Beck Depression Inventory. *J Clin Psychol.* 1984;40:1365–1367.

9. Beck AT. *Depression: Causes and Treatment.* Philadelphia: University of Pennsylvania Press; 1967.

10. Speilberger CD. *State-Trait Anxiety Inventory for Adults.* Palo Alto, Calif: Consulting Psychologists Press, Inc; 1983.

11. Vittinghoff E, Scheer S, O'Malley P, Colfax G, Holmberg SD, Buchbinder SP. Combination antiretroviral therapy and recent declines in AIDS incidence and mortality. *J Infect Dis.* 1999;179:717–720.

12. Palella FR, Delaney KM, Moorman AC. Declining morbidity and mortality among patients with advanced human immunodeficiency virus infection. *N Engl J Med.* 1998;338:853–860.

13. Bing E.G., Kilbourne AM, Brooks RA, Lazarus EF, Senak M. Protease inhibitor use among a community sample of people with HIV disease. *J Acquir Immune Defic Syndr Hum Retrovirol.* 1999;20:474–480.

14. Taylor S, Boffito M, Vernazza PL. Antiretroviral therapy to reduce the sexual transmission of HIV. *J HIV Ther.* 2003;8:55–66.

15. Vernazza PL, Eron JJ, Fiscus SA, Cohen MS. Sexual transmission of HIV: infectiousness and prevention. *AIDS.* 1999;13:155–166.

View publication stats